

**Product Data Sheet**

Issue: 22.07.2008

Identification no.

06-2008

Version 1

Sika® Retarder VZ-1

**Sika® Retarder VZ-1**

Phosphate retarder with no side-effects

<b>Product Description</b>	Sika Retarder VZ-1 is used to increase the workability time of concrete.						
<b>Field of Application</b>	<ul style="list-style-type: none"> <li>- For large monolithic components, e.g. bridges, foundations</li> <li>- Ready-mixed concrete</li> <li>- Concreting in warm weather</li> <li>- Shotcrete</li> </ul>						
<b>Advantages</b>	<p>Sika Retardant VZ-1 can be used to:</p> <ul style="list-style-type: none"> <li>▪ temporarily shield the cement from the mixing water</li> <li>▪ slow down the formation of reaction products, which lead to setting and hardening</li> <li>▪ keep the concrete cool for longer</li> </ul> <p>and in the case of mortar and concrete:</p> <ul style="list-style-type: none"> <li>▪ there is longer workability</li> <li>▪ there is a smaller increase in concrete temperature</li> <li>▪ there is a lower likelihood of cracks owing to temperature stresses</li> </ul>						
<b>Testimonials</b>							
<b>Test Results</b>	<ul style="list-style-type: none"> <li>- Complies with EN 934-2 Table 8 (Retardants)</li> <li>- Complies with DIN V 18 998</li> <li>- Can be used in concrete with tension elements</li> <li>- Complies with the provisions of ZTV-ING</li> <li>- Satisfies KTW recommendations</li> <li>- Can be used in all EU countries</li> </ul>						
<b>Product Data</b>							
<b>Type</b>							
<b>Colour</b>	Light red liquid						
<b>Supplied State</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Barrel</td> <td style="width: 20%;">220 kg</td> </tr> <tr> <td>Transportation container</td> <td>1000 kg</td> </tr> <tr> <td>Bulk</td> <td>from 6 t</td> </tr> </table>	Barrel	220 kg	Transportation container	1000 kg	Bulk	from 6 t
Barrel	220 kg						
Transportation container	1000 kg						
Bulk	from 6 t						
<b>Storage</b>							
<b>Storage conditions/Shelf life</b>	<p>Can be stored for at least 12 months in sealed containers. Stir before use if stored for prolonged periods.</p> <p>Store away from frost, direct sunlight and contaminants.</p> <p>If supplied in bulk, use clean tanks and containers.</p>						

<b>Technical Data</b>	
<b>Chemical Basis</b>	Phosphate
<b>Density</b>	1.25 g/cm <sup>3</sup> at 20 °C
<b>pH Value</b>	Approx. 10
<b>Chloride content</b>	≤ 0.10 %
<b>Alkaline Content</b>	Na <sub>2</sub> O equiv. ≤ 15 %
<b>System Data</b>	
<b>Processing Instructions</b>	
<b>Quantities</b>	0.2-2.5 % of the cement weight

Standard quantities for concrete with CEM II/B-S and CEM III/A

Concrete temperature in °C	Amount of VZ 1 as % of the cement weight for a workability time of the concrete of ..... hours							
	3	5	7	9	12	15	18	21
10	-	-	0.20	0.30	0.35	0.40	0.50	0.70
15	-	-	0.25	0.35	0.45	0.60	0.75	1.00
20	-	0.20	0.30	0.40	0.60	0.80	1.00	1.40
25	-	0.25	0.40	0.60	0.90	1.30	1.80	2.50
30	0.20	0.30	0.50	0.70	1.2	1.80	2.50	-

The specified amounts should be increased by 50 % with CEM I 32.5 R and by 100 % with CEM I 42.5 R

<b>Instructions for Use</b>	
<b>Addition</b>	Add to the concrete mix at the same time as the mixing water.
The action of Sika Retardant VZ-1 is highly dependent on the type of cement, temperature and water/binder value.	
	Retarded concrete is more prone to shrinkage cracks than non-retarded concrete. Careful curing over a sufficient period of time is thus required.
<b>Working Methods</b>	
	Initial inspection in accordance with ÖNORM B 4710-1 is required before use.
General rules regarding satisfactory production and working of concrete in accordance with approved standards should, of course, be followed when using Sika Retardant VZ-1.	
<b>Setting Conditions</b>	
<b>Curing</b>	Concrete curing should start immediately in order to prevent drying out, which may cause damage. This may be achieved by

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covering the concrete with sheeting or the like, spraying it with a curing compound (Sika Antisol or Sika Antisol E) or by moist curing. However, care should be taken not to use so much water that the concrete is eroded.

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**Safety Instructions**

**Important Safety Information** For detailed information please view the current safety data sheet at [www.sika.at](http://www.sika.at)

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**Legal Notice**

The details given above, in particular the recommendations for working and using our products, are based on our knowledge and experience under normal circumstances at the time of going to press. Depending on the specific circumstances, in particular with regard to subsoils, the working process and environmental conditions, these details may vary. Sika guarantees that its products will maintain the technical features as detailed in the product data sheets until their expiry date. Product users should consult the most recent product data sheet at [www.sika.at](http://www.sika.at). Our current general terms of business can also be viewed there.

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